REMARKS

In a non-final Office Action mailed August 14, 2007, the Examiner acknowledged Applicants' filing of a request for continued examination, withdrew the finality of the rejection, and entered Applicants' response. Claims 1, 6 and 9 are pending. Claims 2-5 are cancelled. Claims 7 and 8 are withdrawn from consideration. The Examiner maintained rejections of Claims 1, 6 and 9 under 35 U.S.C. § 103 and imposed new rejections of the pending claims under the same section. Applicants respond to the Examiner's rejection below. In view of the remarks presented herein, Applicants respectfully request reconsideration of the merits of this patent application.

New claims

Applicants present new dependent claims 10-13 which recite method steps that can be associated with measuring the illumination intensity as in the pending independent claims. The cited art does not disclose, teach or suggest the recited steps. The new claims find support in the specification at least at paragraph [0022].

Rejections Under 35 U.S.C. § 103(a)

The Examiner maintained rejections of Claims 1, 6 and 9 under 35 U.S.C. § 103(a) as obvious in view of US Patent No. 6,295,153 to Garner in combination with US Patent No. 5,870,176 to Sweatt & Stulen and US Patent No. 6,262,795 to Baker *et al.* The Examiner asserted that Garner teaches that light is redirected or deflected by the micromirror array and teaches that the position of individual mirrors are controlled to deflect light from individual mirrors as desired (citing column 4, lines 46-52). The Examiner further asserted that Sweatt suggests that during operation, the mirrors of the array are adjusted to alter the amount of light going to and from the micromirror and thereby adjust illumination intensity. The Examiner acknowledged that neither Garner nor Sweatt & Stulen teach mathematically evaluating illumination differences to correct non-uniformity. The Examiner further acknowledged that neither Garner nor Sweatt & Stulen teach adjusting micromirrors based upon a mathematical evaluation of illumination differences to correct non-uniformity across an area. Nevertheless, the Examiner maintains that these would have been obvious to a skilled artisan in view of Baker *et*

al. in combination with Garner and with Sweatt & Stulen. Baker is said to teach the "known problem of non-uniform illumination and the need to obtain and maintain uniform illumination during photolithography. Applicants respectfully disagree with the Examiner's analysis.

The Examiner improperly discounted the Declaration of Harold R. Garner and instead substituted her own judgment for that of Dr. Garner, a skilled artisan and the sole inventor of the cited Garner patent. While making much of Garner's references to "passages," the Examiner completely overlooks Garner's clear and unambiguous statement in the Declaration at the end of para. 5, made under penalty of perjury (Declaration, para. 9) that "I believe that the inventors of the present application were the first to use pulse modulation to compensate for the dimness in individual pixels to achieve light leveling or pulse modulation to compensate for the dimness in individual pixels to achieve light leveling or uniformity across the entire micromirror system for array synthesis. In summary, my patent does not suggest pulse modulation to correct non-uniform illumination at the individual pixel level." (emphasis added). The Examiner's suggestion that Garner seeks to avoid reference to other portions of his patent therefore rings hollow. In contrast, Dr. Garner's references to the cited passages were perfectly proper efforts to counter the Examiner's comments on particular sections of the patent.

In the face of this clear evidence of record, Applicants cannot understand how the Examiner maintains her characterization of Garner's teaching, especially with no other indication of the relevant understanding by a skilled artisan in this field. Instead, the Examiner points only to a mention of "gray scale image" and "gray scale patterning" in col. 5 as evidence of this teaching. Applicants point out that since the phrase "gray scale patterning" appears nowhere in the Garner patent, the suggestion that a skilled artisan could have created such a "pattern" could only have come from the Examiner. Especially when taken in combination with the sworn Declaration of Dr. Garner, one can only conclude that references to a gray scale image refer to fluttering all illuminated micromirrors during a period of illuminating the "illuminated" positions, not to selective illumination of individual positions as in the present application.

Sweatt does not cure the deficiencies of Garner. In Sweatt, individual mirrors are either on or off, illuminating or not illuminating a pixel. Sweatt does not mention any timing aspect

that would teach or suggest increasing or decreasing illumination time, as the claims recite. Sweatt does not teach or suggest that the on/off positions of the micromirrors are used to control illumination intensity beyond simple on/off control. In the only mention of varying light intensity at the boundaries of a chip (col. 4, l. 58-64), Sweatt offers a different solution -- changing the shape of the micromirror reflecting surface while optimizing the time and space of the illumination. Sweatt simply does not suggest that just one or the other of these elements of the solution alone can address varying light intensity or that optimizing the time would mean selective illumination by individual elements. Sweatt details in col. 5 how to change the mirrors to optimize the mirror surfaces, and this must be considered essential to the Sweatt teaching. As such, Sweatt is either silent about Applicants' solution or, indeed, teaches away from Applicants approach.

The Examiner also overstates the contribution of Baker. While the Examiner readily looks to Baker for a statement of the problem, the Examiner turns a blind eye to Baker's solution -- a solution that is irrelevant to Applicants' methods, systems and devices. Applicants agree that illumination intensity is important and that a person skilled in the art would be familiar with the problem in photolithography of non-uniform illumination, as noted by Baker. However, when a skilled artisan recognizes a problem, the artisan is not immediately provided with a solution to that problem, especially when the problem presents in a very different context, namely that of a light-directed micromirror device for forming large plurality of oligomer synthesis positions.

When faced with the need to increase illumination uniformity, Baker's best solution was to add a light filter or other mask in the light path (cols. 5, 6). In col. 6, l. 11-13, Baker indicates that the filter is varied to alter the amount of light reflected or absorbed at a given location. Baker does not even consider separate filters for individual micromirrors, but rather looks to a single filter for the entire location and provides no other approach to alter illumination intensity. A skilled artisan reading Baker would be led to use a filtering approach rather than Applicants' approach to varying the illumination time of individual micromirrors.

The new §103 rejection over Quate in view of Baker must fail for the same reason. The teaching of Quate does not go beyond that of Garner, *supra*. Applicants acknowledge

Examiner's comment that Quate (like Garner) modulates light "by selectively using a spatial light modulator to turn individual mirrors on/off and [to] redirect light to alter light intensity at each pixel feature." However, Applicants strenuously maintain that this was done only by turning the light on for a first defined illumination period toward a first set of "on" mirrors to illuminate a first set of positions, and then presenting a second set of "on" mirrors for illuminating a second set of positions in a second defined illumination period. Quate does not contemplate adjusting the "on" mirrors during any illumination period. As Dr. Garner noted in his Declaration, this concept was not contemplated until it was contemplated by the Applicants. Moreover, the combination of Baker with Quate cannot cure this deficiency for the reasons noted above in connection with the prior rejections.

For all of the foregoing reasons, Applicants respectfully request reconsideration of the merits of this patent application.

Fees

A petition for a three-month extension of time accompanies this response so that it will be deemed to have been timely filed. No other extension of time is believed due, but should any additional extension be due, in this or any subsequent response, please consider this to be a petition for the appropriate extension and a request to charge the extension fee to Deposit Account No. 17-0055. No additional fees are believed due; however, if any fees are due, in this or any subsequent response, please charge Deposit Account 17-0055.

Respectfully submitted,

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